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WILEY, REIN & FIELDING

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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF SECRETARY

November 9, 1994

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WRITER'S DIRECT DIAL NUMBER
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Mr. William F. Caton
Acting Secretary
Federal Communications Commission
1919 M Street, N.W., Room 222
Washington, D.C. 20554
STOP CODE: 1170

Re: Ex Parte Communication
PR Docket No. 93-61
Automatic Vehicle Monitoring: Meeting of the Part 15/AVM-LMS Coexistence Task Force

Dear Mr. Caton:

Yesterday, James Pautler and Louis H. Jandrell of Pinpoint Communications, Inc., and David E. Hilliard and I of Wiley, Rein & Fielding participated in a meeting at the offices of the firm of Ginsburg, Feldman, and Bress among various automatic vehicle monitoring and Part 15 interests to discuss system testing that may lead the Commission to a more informed decision in this proceeding. Dr. Michael J. Marcus of the Field Operations Bureau and Tom Dombrowsky of the Private Radio Bureau were present at the meeting. In light of the progress made at the meeting, engineers representing many of the participants agreed to confer among themselves by teleconference on November 10, 1994, to continue to develop testing parameters for potential tests. The group as a whole agreed to reconvene via meeting or teleconference on November 16, 1994.

Attached are copies of the materials Pinpoint made available at the meeting, which describe how the Pinpoint experimental system is ready for interference tests with Part 15 manufacturers in Washington, D.C.

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List A B C D E

Should there be any questions concerning this matter, please contact me.

Respectfully submitted,

Edward A. Yorkgitis, Jr.
Counsel for Pinpoint
Communications, Inc.

cc: Dr. Michael J. Marcus
Mr. Tom Dombrowsky
Attached List

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Commissioner Rachelle B. Chong
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Commissioner Susan Ness
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Ms. Jane Mago
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AVM and Part 15 Testing

Pinpoint Communications, Inc.

James Pautler

JAP/JVK

11/8/94

Pinpoint COMMUNICATIONS, INC.

Test Plan Concept

- All Testing Must Focus On The **SYSTEM** Impacts To AVM and Part 15 Devices
- Pinpoint Will Simulate Fully Loaded Network Performance At A Base Station As Well As Within An Area
  - This Is The Worst Case Scenario And Is Extremely Unlikely

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Layout Of Pinpoint Base Stations

JAP/JVK

11/8/94

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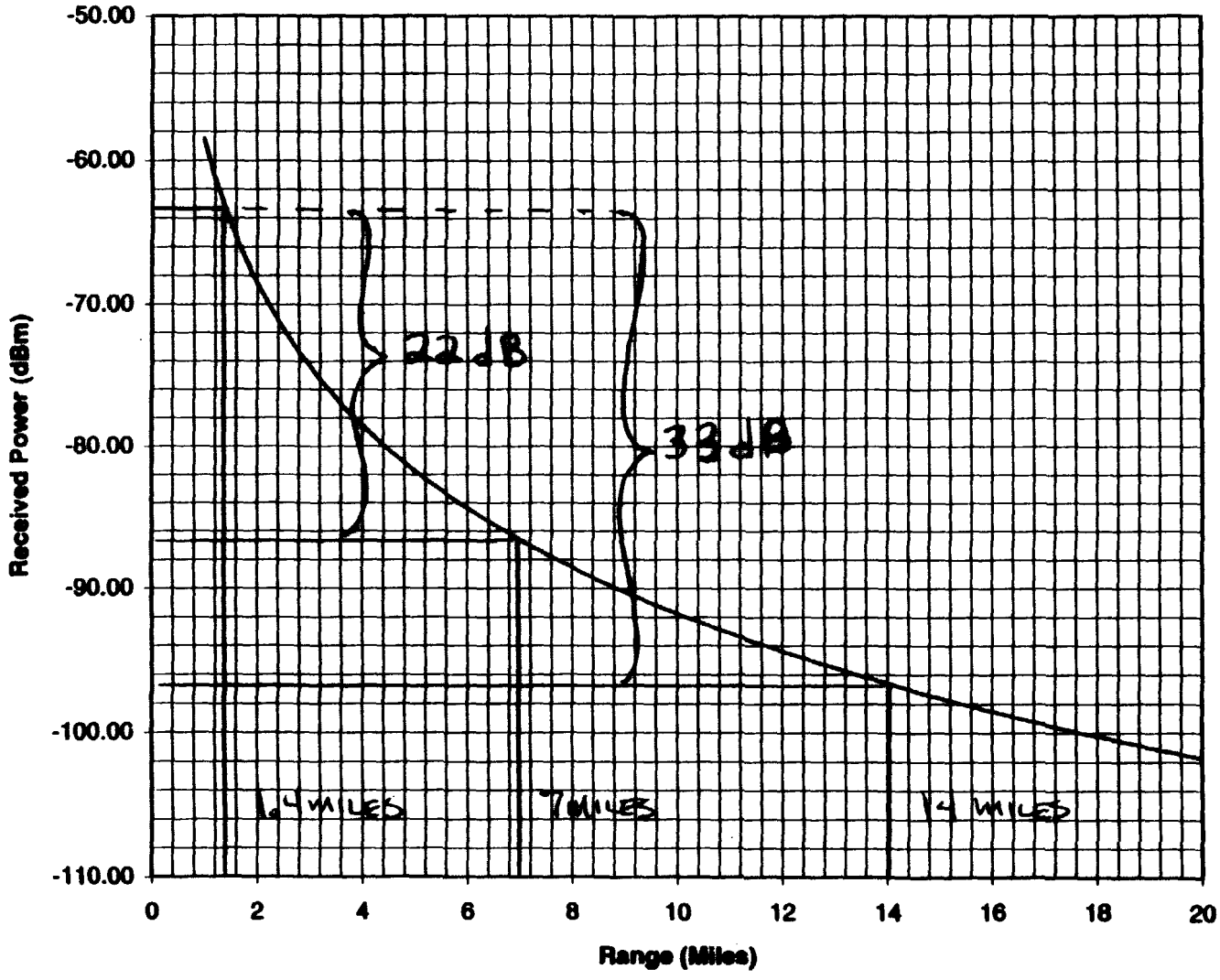
Simulation of Pinpoint's Network Using The USA Today Base Station

- USA Today Base Station Is 1.4 Miles From Washington Circle (Pennsylvania and New Hampshire)
- The Difference In Range Can Be Translated Into A Power Reduction
  - Seven Mile Range Is A 22 dB Reduction In Power
  - Fourteen Mile Range Is A 33 dB Reduction In Power
  - See Next Chart For Details

AVM Signal Level, Hata Model using Suburban Terrain



Link Parameters

200 Ft Transmitter

500W ERP Transmitter

10 Ft Receiver

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Activity In A Seven And Fourteen Mile Range

- Seven Mile Range Inscribes 6 Base Stations (Excluding The Center One)
- Fourteen Mile Range Inscribes 18 Base Stations (Excluding The Center One)

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Pinpoint System Parameters

- Base Station Power: 500W ERP
  - Ambassador Hotel Transmitter Is +56 dBm ERP
  - USA Today Transmitter Is +57 dBm ERP
- Bandwidth:
  - 8 MHz in Test Configuration
  - 16 MHz in Demonstration Configuration
- MSK Modulation

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Pinpoint System Parameters

- Center Frequency
  - For 8 MHz Bandwidth, Center Frequency Selectable Over A Range Of 906 To 924 MHz
  - For 16 MHz Bandwidth, Center Frequency Set At 920 MHz
  - Need Waiver To Go Below 912 MHz And For Out-Of-Band Emissions
- Pulse Duration
  - Location Polls: 200 usec
  - Data: 7.2 msec

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Activity Simulation Capabilities

Switch Setting	Fraction of Full System Load	Loading	LOCATION POLLS Transmit Duty Factor	LOCATION POLLS Total Number Pulses	LOCATION POLLS Pulse Rate (/sec)	DATA Transmit Duty Factor	DATA Total Number Pulses	DATA Pulse Rate (/sec)
1	0.50%	Random	0.15%	98	7.5	0.23%	4	0.3
2	1.67%	Random	0.50%	327	24.9	0.75%	13	1.0
3	1.67%	Grouped	0.50%	327	24.9	0.75%	13	1.0
4	3.33%	Random	1.00%	655	50.0	1.50%	27	2.1
5	10.00%	Random	3.00%	1966	150.0	4.50%	81	6.2
6	33.33%	Random	10.00%	6553	500.0	15.00%	273	20.8
7	50.00%	Random	15.00%	9830	750.0	22.50%	409	31.2
8	100.00%	Random	30.00%	19660	1499.9	45.00%	819	62.5

- These Capabilities Are Available At Both The Ambassador Hotel and USA Today Base Station

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Simulation Switch Setting Explanation

- 1 - Light base traffic.
- 2 - Simulates an average base station in a fully loaded system using location polls and data together - Random scheduling.
- 3 - Simulates an average base station in a fully loaded system using location polls and data together - Base transmissions grouped at half second intervals.
- 4 - Simulates an average base station in a fully loaded system using location polls only, or data only.
- 5 - Greater than average base traffic.
- 6 - Simulates 66% of a fully loaded system using location polls and data together.
- 7 - Simulates an entire fully loaded system using location polls and data together.
- 8 - Simulates an entire fully loaded system using location polls only, or data only.

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Base Station Test Configuration

- Ambassador Hotel
  - 400W ERP (+56 dBm)
  - 916 MHz Center Frequency, 8 MHz Bandwidth
  - Duty Cycle Set At Setting 2
- USA Today
  - 500W ERP (+57 dBm) With 22 dB or 33 dB Attenuation
  - 916 MHz Center Frequency, 8 MHz Bandwidth
  - Duty Cycle Set At Setting 6

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Recommended Test Plan

- Run 1 - Measure Received Power At Various Points In The Test Area
- Run 2 - Itron Creates A Baseline Case Around Their Meter Reading Route With No Interference Present
- Run 3 - Itron Repeats Route With Pinpoint'S Ambassador Hotel Transmitter On At Full Power Using A Duty Factor Typical Of A Base Station (Setting 2 on Pinpoint'S Transmitter)
- Run 4 - Itron Repeats Route With Pinpoint'S USA Today Transmitter On Simulating Base Stations (In Power and Duty Cycle) That Are Seven Miles Away, Ambassador Is Off

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Recommended Test Plan (Continued)

- Run 5 - Itron Repeats Route With Pinpoint'S USA Today Transmitter On Simulating Base Stations (In Power and Duty Cycle) That Are Fourteen Miles Away, Ambassador Is Off
- Run 6 - Itron Repeats Route With Pinpoint'S USA Today Transmitter On Simulating Base Stations (In Power and Duty Cycle) That Are Fourteen Miles Away And The Ambassador Hotel Is On At Full Power With The Duty Factor Of An Average Base Station

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Test Measurements - Run 1

- Measure The Power Received Via A Spectrum Analyzer At Various Points In The Test Area Under The Following Conditions
  - Pinpoint's Ambassador Hotel Transmitter On Operating At An Average Base Station Duty Cycle
  - Pinpoint's USA Today Transmitter On Simulating Base Stations Seven Miles Away At Their Average Duty Factor
  - Pinpoint's USA Today Transmitter On Simulating Base Stations Fourteen Miles Away At Their Average Duty Factor
  - Pinpoint's USA Today Transmitter On Simulating Base Stations Seven Miles Away At Their Average Duty Factor And The Ambassador Hotel Transmitter On Operating At Average Duty Factor

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Test Measurements - Runs 2 through 5

- Itron Runs A Route Through Their Meter Reading Area
- Measure The Number Of Successful Reads
- Repeat The Route TBD Times

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Known Interference In The Area

- Pinpoint Has Observed At Least One Interferer In/Near The Test Area
- Its Approximate Location Is 17th And H

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Part 15 Testing

- Pinpoint Invites Other Part 15 Manufacturers Of Cordless Phones, Etc.. To Test Their Devices In Conjunction With This Test
- Testing Can Occur At:
  - The FCC Offices If They Are Available
  - Wiley, Rein And Fielding
  - Other Offices Near/Within The Test Area If They Are Available